



Attorney Docket No.: A-68718-3/RFT/RMS/RMK

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Duong

Serial No. 09/904,175

Filed: July 11, 2001

For: DEVICES AND METHODS FOR  
BIOCHIP MULTIPLEXING

Examiner: NOT YET ASSIGNED

Group Art Unit: 1645

CERTIFICATE OF MAILING

I hereby certify that this correspondence, including listed enclosures, is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to:  
Assistant Commissioner for Patents, Washington, DC 20231

on:

Dated: 1-4-02

Signed: Christine P. Peters

Christine P. Peters

INFORMATION DISCLOSURE STATEMENT AND  
STATEMENT OF RELATEDNESS

Assistant Commissioner  
for Patents  
Washington, DC 20231

Sir:

In satisfaction of the duty of disclosure under 37 C.F.R. § 1.56, and in accordance with the provisions of 37 C.F.R. §§ 1.97 and 1.98, Applicants wish to draw the attention of the U.S. Patent and Trademark Office to the reference cited on the accompanying form PTO-1449.

Further, in accordance with the provisions of 37 C.F.R. §§ 1.97(c) and 1.97(e)(1), the undersigned certifies that the references listed on the enclosed form PTO-1449 were cited in the International Search Report dated October 05, 2001, for a counterpart PCT application. As such, the filing of the instant Information Disclosure Statement is within three months of the date of that International Search Report and, therefore, need not be accompanied by the fee as set forth in 37 C.F.R. § 1.17(p). A copy of the International Search Report for the counterpart PCT application is enclosed herewith.

**Serial No.:** 09/904,175

**Filed:** July 11, 2001

With respect to patent applications, the applicants point out their duty under M.P.E.P. §2001.06(b) to disclose relevant patent applications of which they are aware. To this end, the applicants draw the Examiner's attention to the following patent applications;

1. United States Serial Number 09/760,384, filed January 11, 2001 and 09/993,342, filed November 05, 2001.
2. U.S.S.N. 08/743,798, filed November 5, 1996; U.S.S.N. 08/873,978, filed June 12, 1997; U.S.S.N. 08/899,510, July 24, 1997; U.S.S.N. 08/911,085, filed August 14, 1997, now Patent Number 6,090,933; U.S.S.N. 09/557,577, filed April 21, 2000; and U.S.S.N. 09/577,429, filed May 22, 2000.
3. U.S.S.N. 08/873,597, filed June 12, 1997; U.S.S.N. 08/911,589, filed August 14, 1997; and U.S.S.N. 09/660,374, filed September 12, 2000.
4. U.S.S.N. 09/096,593, filed June 12, 1998.
5. U.S.S.N. 09/134,058, filed August 14, 1998; U.S.S.N. 09/338,726, filed June 23, 1999; U.S.S.N. 09/440,371, filed November 12, 1999; U.S.S.N. 09/520,477, filed March 8, 2000; and U.S.S.N. 09/712,792, filed November 13, 2000.
6. U.S.S.N. 09/238,351, filed January 27, 1999 and 09/621,275 filed July 20, 2000.
7. U.S.S.N. 09/245,105, filed January 27, 1999.
8. U.S.S.N. 09/397,957, filed September 17, 1999.
9. U.S.S.N. 09/847,113, filed May 1, 2001.

None of the foregoing references are believed to disclose the invention as claimed. Nothing herein shall constitute an admission concerning the contents of any of the cited

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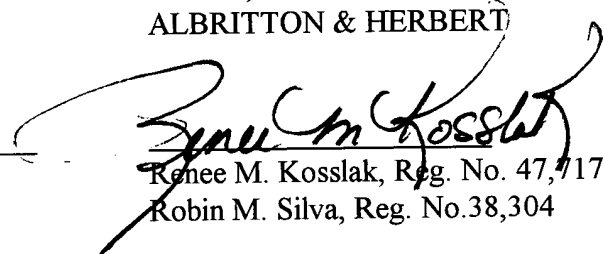
references, nor shall the inclusion of a reference herein be considered an admission that the reference constitutes prior art against the invention claimed in the above-identified application. Submission of the present document shall not be construed as an admission that a search has been made or that better art does not exist.

Although no fee is believed to be due, the Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 06-1300 (Our Order No. A-68718-3/RFT/RMS/RMK).

Respectfully submitted,

FLEHR, HOHBACH, TEST,  
ALBRITTON & HERBERT

Dated: 1/4/02

  
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# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

# PCT

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(PCT Rule 44.1)

To:

FLEHR HOHBACH TEST ALBRITTON  
& HERBERT LLP  
Attn. Trecartin, Richard  
4 Embarcadero Center, Suite 3400  
San Francisco, CA 94111-4187  
UNITED STATES OF AMERICA

Date of mailing  
(day/month/year)

05/10/2001

Applicant's or agent's file reference

FP68718-2RMS/RMS

**FOR FURTHER ACTION**

See paragraphs 1 and 4 below

International application No.

PCT/US 01/01150

International filing date  
(day/month/year)

11/01/2001

Applicant

CLINICAL MICRO SENSORS, INC.

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Fascimile No.: (41-22) 740.14.35

**Comments on Abstract due**

11/5/01

**Rspn to Int'l Search due**

12/5/01

For more detailed instructions, see the notes on the accompanying sheet.

**Review Foreign Refs (U.S.)**

11/5/01

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within **20 months** from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Marie-Françoise Provot

## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

#### What parts of the International application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

**The following examples illustrate the manner in which amendments must be explained in the accompanying letter:**

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### **"Statement under article 19(1)" (Rule 46.4)**

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

**It must be in the language in which the international application is to be published.**

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### **Consequence if a demand for international preliminary examination has already been filed**

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

### **Consequence with regard to translation of the international application for entry into the national phase**

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>FP68718-2RMS</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 01/ 01150</b>	International filing date (day/month/year) <b>11/01/2001</b>	(Earliest) Priority Date (day/month/year) <b>11/01/2000</b>
Applicant  <b>CLINICAL MICRO SENSORS, INC.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.  
☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant.
- ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☐ the text is approved as submitted by the applicant.
- ☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

- ☐ as suggested by the applicant.
- ☒ because the applicant failed to suggest a figure.
- ☐ because this figure better characterizes the invention.

1  
☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 01/01150

## Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

A biochip cartridge comprising: a) a reaction chamber comprising : i) a substrate comprising an array of electrodes, each comprising: A) a self-assembled monolayer; and B) a capture binding ligand; ii) an inlet port for the introduction of reagents; and b) interconnects to allow the electrical connection of said electrodes to a processor.



## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/01150

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B01L3/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 00 62931 A (KAYYEM JON FAIZ ;CLINICAL MICRO SENSORS INC (US)) 26 October 2000 (2000-10-26) page 2 page 38, line 30 -page 44, line 10 page 108, line 25 -page 109, line 3 ---	1-12, 18, 19, 22
X	✓ WO 97 41425 A (PENCE INC ;UNIV MCGILL (CA)) 6 November 1997 (1997-11-06) page 6, line 32 -page 8, line 23; figure 1 ---	1-9
X	US 5 519 635 A (MIYAKE RYO ET AL) 21 May 1996 (1996-05-21)  column 10, line 18 -column 13, line 29; figures 11-13 --- -/--	10-13, 18, 19, 21, 22



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\* & \* document member of the same patent family

Date of the actual completion of the international search

27 September 2001

Date of mailing of the international search report

05/10/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Hodson, M

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/01150

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 12539 A (MESO SCALE TECHNOLOGIES LLC) 26 March 1998 (1998-03-26)	1-7, 9, 10, 13, 18, 19, 21, 22
A	figures 1, 1A, 47, 69	8, 11, 12, 14-17, 20, 23
A	--- US 5 741 462 A (NOVA MICHAEL P ET AL) 21 April 1998 (1998-04-21) column 4, line 45 -column 6, line 51 ---	10, 13-20
A	--- WO 98 05424 A (CHOW CALVIN Y H ; CALIPER TECHN CORP (US)) 12 February 1998 (1998-02-12) page 11 -page 15 ---	1-22
A	✓ WO 98 57159 A (CLINICAL MICRO SENSORS INC) 17 December 1998 (1998-12-17) ---	
A	--- US 5 866 345 A (WILDING PETER ET AL) 2 February 1999 (1999-02-02) -----	

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/01150

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0062931	A	26-10-2000	AU 4368000 A WO 0062931 A1	02-11-2000 26-10-2000
WO 9741425	A	06-11-1997	AU 711956 B2 AU 2563897 A AU 711861 B2 AU 2563997 A CA 2251674 A1 CA 2252474 A1 WO 9741424 A1 WO 9741425 A1 EP 0895592 A1 EP 1005644 A1 JP 2001503849 T JP 2000510233 T US 6107080 A US 6165335 A US 6130037 A US 5955379 A	28-10-1999 19-11-1997 21-10-1999 19-11-1997 06-11-1997 06-11-1997 06-11-1997 06-11-1997 10-02-1999 07-06-2000 21-03-2001 08-08-2000 22-08-2000 26-12-2000 10-10-2000 21-09-1999
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WO 9812539	A	26-03-1998	US 6207369 B1 AU 4649597 A EP 0944820 A1 JP 2001503856 T WO 9812539 A1 US 2001021534 A1	27-03-2001 14-04-1998 29-09-1999 21-03-2001 26-03-1998 13-09-2001
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WO 9805424	A	12-02-1998	AU 717981 B2 AU 3815697 A CA 2259929 A1 CN 1226845 A EP 0952890 A1 JP 2000515630 T WO 9805424 A1 US 6071478 A US 5955028 A	06-04-2000 25-02-1998 12-02-1998 25-08-1999 03-11-1999 21-11-2000 12-02-1998 06-06-2000 21-09-1999
WO 9857159	A	17-12-1998	AU 7967898 A EP 0988534 A1 WO 9857159 A1	30-12-1998 29-03-2000 17-12-1998

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/01150

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5866345	A	02-02-1999	US 5637469 A 10-06-1997
			AT 155711 T 15-08-1997
			AT 167816 T 15-07-1998
			AT 140025 T 15-07-1996
			AT 140880 T 15-08-1996
			AT 174813 T 15-01-1999
			AU 677780 B2 08-05-1997
			AU 4222393 A 29-11-1993
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			AU 677197 B2 17-04-1997
			AU 4223593 A 29-11-1993
			CA 2134474 A1 11-11-1993
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			CA 2134478 A1 11-11-1993
			DE 69303483 D1 08-08-1996
			DE 69303483 T2 06-02-1997
			DE 69303898 D1 05-09-1996
			DE 69303898 T2 20-02-1997
			DE 69312483 D1 04-09-1997
			DE 69312483 T2 12-02-1998
			DE 69319427 D1 06-08-1998
			DE 69319427 T2 10-12-1998
			DE 69322774 D1 04-02-1999
			DE 69322774 T2 17-06-1999
			EP 0637996 A1 15-02-1995
			EP 0637997 A1 15-02-1995
			EP 0639223 A1 22-02-1995
			EP 0637998 A1 15-02-1995
			EP 0637999 A1 15-02-1995
			ES 2106341 T3 01-11-1997
			ES 2127276 T3 16-04-1999
			GR 3025037 T3 30-01-1998
			GR 3029509 T3 28-05-1999
			HK 16897 A 13-02-1997
			JP 7506430 T 13-07-1995
			JP 7506431 T 13-07-1995
			JP 7506256 T 13-07-1995
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			JP 7506258 T 13-07-1995
			WO 9322053 A1 11-11-1993
			WO 93220 A1